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ABSTRACT

This paper is the second of a series of three which attempt to integrate categories of description aimed at characterizing the experience of learning in terms of the logical relationships that exist between them. The description of the qualitatively different ways in which various aspects of reality are experienced and conceptualized, and the search for logical relations between the categories of description arrived at have been labelled phenomenography. In this paper, the categories of description corresponding to the qualitatively different ways in which various aspects of learning tasks are seen by the learner are characterized on three increasingly general levels, with two sub-levels within each: (1) conceptions of what is to be learned--conceptions of content and conceptions of structure; (2) approaches to learning--holistic vs. atomistic approach, and deep vs. surface approach; and (3) conceptions of studying--orientations to studies and conceptions of learning. (Author/PN)

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A b s t r a c t

An attempt is made to integrate experiential aspects of learning in terms of a relational concept of skill. Skill is seen as a relation between task and learner and it refers to the quality of how the task is performed by the learner. The most important aspect of the quality of performance is how the content of the task and the task itself is experienced and conceptualised. The categories of description corresponding to the qualitatively different ways in which various aspects of learning tasks are seen by the learner are characterised on three increasingly general levels with two sub-levels within each, in accordance with the following:

1. Conceptions of what is to be learned
   a) conceptions of content
   b) conception of structure

2. Approaches to learning
   a) holistic v atomistic approach
   b) deep v surface approach

3. Conceptions of studying
   a) orientations to studies
   b) conceptions of learning.

There are certain logical relations between categories belonging to the different levels in the hierarchically organised system of description. Specifically, there are implicatory relations, the direction of which goes from more specific to more general levels (e.g. a certain way of conceptualising the content of the task logically implies that the learner must have approached the task in a certain way).

Foreword

The conceptualisation of study skill underlying the present paper differs from the traditional view of study skill, or rather: study skills. These are usually considered as more or less technical capabilities applicable to widely varying tasks. These capabilities may refer to note-taking, underlining and other ways of organising the study material, as well as to ways of organising the study work itself; reading, summarising, rehearsing and so on. From such a perspective it appears meaningful to characterise study skills in a general way, without regard to any particular content. The alternative, relational view of study skill implies, however, that skill is seen as a relation between task and learner, it refers to the quality of how the task is performed by the learner. Earlier research revealed that the most important aspect of the quality of performance is the way in which the content of the task and the task itself is experienced and conceptualised by the learner. On the most concrete level, study skill takes on different meanings when it is described in relation to different tasks. To be sure, skill is based on the capability of experiencing or conceptualising a certain content (or a certain task) in one way, rather than in another.

The present paper is the second in a series of three, all of which aim at integrating categories of description in terms of which learning has been described from an experiential perspective. (The description of the qualitatively different ways in which various aspects of reality are experienced and conceptualised and the search for logical relations between the categories of description arrived at have been labelled phenomenography by Marton (1981), there of the term in the title.) Obviously, such an endeavour can easily be reconciled with the above conceptualisation of study skill. In the present paper, categories of description corresponding to the qualitatively different ways in which various aspects of learning are experienced and conceptualised are integrated in terms of a relational view of skill (which represents the capability aspect of those categories).

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Mölndal, December, 1982

Ference Marton Lennart Svensson

As the verb *to study* is a somewhat more inclusive synonym of the verb *to learn* the term *study skills* has necessarily something to do with *ways of learning*. Consequently, the meaning that the student gives *learning* has reasonably something to do with the way in which he or she sets about learning. On the other hand, the meaning that the researcher gives *learning* has reasonably something to do with the way in which he or she describes study skills.

Such a line of reasoning implies, of course, that there are qualitatively different ways in which learning can be conceptualized and/or experienced. Let us consider two such distinctively different ways of viewing learning; namely, learning as the acquisition of a certain *amount of pieces of knowledge* on the one hand and learning as a *change* in one's way of conceptualizing a certain aspect of reality on the other. Two students, each holding one of the two alternative conceptions, will most likely behave in different ways in the very same learning situation. And two researchers, each holding one of the two alternative conceptions, will most likely describe these students' ways of setting about the task in different ways.

Our own conception of learning corresponds to the second of the two alternatives. There are some obvious implications of such a conceptualization of learning as to how to describe study skills.

A relational view of study skill

Study tasks are defined through the learning material and the expectations as to the study activity and the results. The study activity developed, as well as the expected activity, may be described in terms of study skill. The manifest relation between the student and the task, i.e. what is actually done and achieved in studying, varies because of differences between tasks and/or differences in activity. Thus, it is very difficult to give any substantial meaning to study skill generally as we are dealing with a phenomenon dependent both on the task and the individual. However, this is not generally acknowledged or accepted.

The term study skill has most often been used in connection with study guides and courses intended to improve the student's study activities. The advices and training given has been concerned with different forms of systematisation of the treatment of the learning material and the use of memory aids. Lately, there have also been activities mainly aiming at making the students aware of their own study activity as a basis for adaptation and change of the activity. In talking about study skill, one -as a rule- uses the plural form and refers to a set of activities assumed to be useful in carrying out the studies. Such activities are for instance, systematic note-taking, use of the disposition of a talk or the surface structure of a text, underlining, making summaries and the use of memory such as abreviations, reorganisation to aid association, repetition and so on. In addition to a concern for such forms of activity there is usually an emphasis on the need to concentrate on learning and to study for a purpose. The meaning given to study skills seems to be that all these different forms of activity are important and that each represents a skill that will promote learning.

The common meaning of study skill conflicts with the relational view favoured here. If the meaning of study skill is dependent both on the task and the individual, i.e. different tasks take different skills and the same task may be solved in different ways, then one can not expect the same set of skills to be generally relevant. However, could it not be useful to have these skills and to be able to use them when appropriate? Apart from the fact that the most difficult aspect is certainly to know when to use the so-called skills, the fundamental question is *What skills?* The skills referred to are mainly described as forms of activities and not in terms of the content treated. Such forms of activity cannot be appropriate irrespective of the content. The forms have to be developed out of the purpose and the treatment of content.

Forms of activity like note-taking or relying on the surface structure of a text, using abreviations and/or vivid associations as memory aids may be either functional or dysfunctional depending on the purpose and the content of the learning. Such forms of activity are related to

learning and the learning outcome through their relation to the way of thinking about the content. Thus, they cannot in themselves be said to represent study skills (i.e. skills that lead to expected or valued learning), but rather to represent conditions for and/or consequences of the way of thinking about the content, which is the fundamental aspect of learning and study skill. According to this relational view, study skill must concern primarily important characteristics of the approach to and the way of thinking about the content during learning. Different forms of activity in the sense described above must be seen as secondary and having an indirect relation to the learning outcome (their character of study skill) through their relation to the approach to and the way of thinking about the content. (More extensive presentations of this relational conception of study skill are given by Svensson, 1976, 1977 and 1981.)

The term skill refers to the quality of the performance of a task. Here, a fundamental question concerns the basis for differentiating between qualities. Performance is an activity and the activity has a result, an outcome, which is basic to the determination of the quality of the activity. In the case of study skill, the learning outcome is crucial to the meaning of study skill. This relational character of the meaning of study skill is important to remember, not the least because the conception and valuation of different outcomes may vary and consequently what is meant by study skill may also vary. The conception of learning as a change in quality was mentioned in the introduction as fundamental to the present description of study skill. There are many aspects of this approach to studies of learning which differ from those which are usually a part of a more quantitative approach to the study of learning (cf Marton and Svensson, 1979). Thus the differentiation between qualities of study activity is first one of differentiation between qualitatively different outcomes of learning. However, one has to distinguish between the fact that there are important qualitative differences and the question of whether one or the other of the qualities is generally to be preferred.

The most common approach in describing outcome of learning is in terms of right or wrong. However, this is a rather restricted approach in that it does not consider the problem of the choice of design of criteria and the possible and existing differences in criteria among researchers, teachers and not the least among students. Also, even the

fulifillment of the same *formal* criterion may mean differences in performance of great importance from the point of view of generalisation. Considering this, a more fruitful approach seems to be to describe important qualitative differences in outcome as the basis for describing study skill. The advantages are that this approach focusses on the content of the criteria, it makes it possible to discuss different criteria in relation to the same empirical material and, most important, it makes it possible to relate activity and outcome in each case in a positive way (not just as a lack in relation to the one criterion).

Qualitative differences in the outcome of learning

A description of study skills, which is in accordance with the above line of reasoning, should take as its point of departure the *what* of learning. In other words, we must start by discerning what is learned in order to characterize the way in which learning has taken place. The idea is that process and outcome constitute a so-called *internal relationship*, i.e. we cannot speak of a certain outcome without its implying a certain process and vice versa, they both belong together.

What are seen as important outcomes of learning may vary widely among those involved in learning and teaching. At the same time, there are apparent qualitative differences in outcome of learning. Some of these differences are more fundamental in relation to the content treated and to a cumulative development of knowledge. This also means that these qualities represent quite general aspects of the outcome. Some of these qualities very clearly represent aims of the educational system. At the same time, a requirement of these qualities represents recurring difficulties to the students. Still, not very much attention is usually paid to these qualitative differences and the difficulties of the students. In this section, we shall specify what kind of qualities and qualitative differences we find fundamental and the most interesting criteria for describing study skill.

Conceptions of the content

The outcome of learning can be described on more or less general levels. Most obviously there is always a content of learning, specific for a relatively narrowly defined class of learning tasks. Above, we stated our own idea of learning as a change in one's conception of a certain

aspect of reality. A description on this level is necessarily content-specific and has to be phrased in terms of *from which conception of aspect X to which other conception of the same aspect X.* Lybeck (1981) has, for instance, given a detailed description of how students' thinking about the question *Why do objects sink in water?* changes from

A. *"Because they are heavy"*

to

B. *"Because they are heavier than water"*

or to

C. *"Because the quotient between their mass and volume is greater than it is for water."*

Since the term *skill* refers to a capability to do something, the skill related to a certain conception of a certain content of learning is the capability to *conceptualize* that particular content in that particular way.

The three qualitatively different ways of conceptualizing *why objects sink in water*, discerned by Lybeck are also described by him in a less content-specific way as we can distinguish between

A. Absolutistic (reasons are given in terms of an inherent quality of a body)

B. Comparative (reasons are given in terms of a relation between the same quality in two bodies)

C. Quantitative conceptualizations (reasons are given in terms of a relation between relations between two different qualities in each of two bodies, expressed in quantitative terms)

These categories of description can obviously be applied to a far wider range of phenomena, and being structural in character they are to some extent neutral as to content.

Another example close to the topic of this paper is taken from a learning experiment reported by Säljö (1975). The content taken as the example here concerns what is meant by the output of an educational system. The conception of this may be said to represent an important understanding within the field of education. In the experiment, 39 students read parts of C.H. Coombs *The World Educational Crisis: A System Analysis.* In one of the chapters, the topic is specifically treated and the aim clearly is

to promote one kind of conception of this phenomenon rather than others. The author makes it clear that, in fact, this is a very difficult question to answer and he sees the output as a very abstract concept denoting many different qualities which have effects on the individual and on society (Coombs, 1968, p 64). The illustration sought here concerns qualitative differences in the conception of this content. Such differences were revealed in the form of answers to the question *What is meant by the output of an educational system?* The answers were found to represent four qualitatively different conceptions.

Below, we give the four found conceptions of the outcome of an educational system. The outcome equals

1. the effects of education on society and on individuals through the knowledge attitudes etc. which are acquired through schooling
2. those who leave the educational system with or without an examination
3. those who leave the educational system with a completed (in some sense) education
4. what comes out of the educational system.

Only eight of the students expressed the first conception and four the second (which means that they consider the whole impact on all students). Most of the students, twenty-one, expressed the third conception which is actually the opposite to the one argued for by the author. The fourth conception expressed does not reveal any meaning beyond the abstract one inherent in the general definition of outcome.

Conceptions of the structure

The qualitative differences in learning outcome revealed in these two examples may be described generally as a difference in the differentiating and relating of parts of the content treated. In the first example, there is a change in the character of the relation between object and water also implying a change in the differentiation of the two parts of the relation. In the first conception, the relation is made dependent only upon a quality of the object, in the second upon the relation in the same quality between object and water and in the third conception this relation between object and water is made dependent upon a differentiation and relation within each part of the relation, the object and the water. In the second example, the first conception means a differentiation and relation between the immediate outcome of schooling and the

subsequent effects of this outcome. The other conceptions do not include this differentiation and relation. The second and third conceptions differ in that they represent different differentiations of the outcome in relation to the system (including all the students or just some of them). The fourth conception represents a lack of specification and differentiation. Similar differences in differentiation and relating of parts of contents are even more clear and important in some other cases where the qualities are crucial to the understanding of the specific content but perhaps still more so as capacity to deal with new content.

Just as the outcome of learning can be described on different levels of generalizability, the skill that is implied by a certain outcome can be described on different levels. Just as arriving at a certain conception implies a certain capability of conceptualizing, the arriving at a certain structure implies a certain capability to *structure* or to *discern a structure*.

The handling of structural difficulties inherent in learning materials appears to be a highly important component of *the art of studying*. One such structural difficulty is linked with the reading of texts which are based on the principle-example structure. Marton & Wenestam (1979) have, used texts in which the main point is a certain principle (such as *Scientific hypotheses are tested by means of comparing two conditions, on the average equal in all respects but the one which the hypothesis to be tested concerns)* which is illustrated by one single and rather comprehensive example (such as Semmelweis' search for the cause of child-bed fever in mid-nineteenth century Vienna). The example is thus subordinate to the principle it is intended to illuminate. It turns out, however, that this hierarchical structure is missed by a substantial number of readers. Their reading of the text lacks the dimension of depth so to speak. In a metaphorical sense they *tilt* the text. Instead of understanding it as containing a main point (a principle) which is illustrated by one (or several) example(s) they conceive of it as if it were built of a number of parts on the same level without any apparent relation. (For instance, in terms of the above example, they think that the text on the one hand is about the testing of scientific hypotheses and on the other about the search for the cause of child-bed fever, without having any idea of the reason for juxtaposing the two topics in the text). This *levelling out* of the hierarchical structure and the depth

dimension of the text has been called *horisontalization*. In some instances, not only is the superordinate level of the main point lost but the main point as such has vanished altogether. In this case, the reader thinks that the text is about the example (of course he or she does not look upon the example as an example). To return to our own illustration, the reader believes, for instance, that the text is about Semmelweis' search for the cause of child-bed fever.

Using the above mentioned phenomenon of *horizontalization* as a point of departure, Brew & Batten (1980) studied the way in which students handle structural difficulties in text materials and television programmes developed and used by the Open University. They found that many students have great difficulties in, for instance, distinguishing between:

a) a theory and that which it is a theory of (e.g. social events and sociological theory) and

b) the main points in a text and the supporting evidence.

Brew &Batten point out that although such capabilities are obviously presupposed by the writers of the course material they are at no point made the object of explicit attention. It seems reasonable to believe that the lack of capabilities of this kind severely limit the students' chances of profiting from the course material in a way which is expected.

Svensson (1976 and 1977) found that the main difference between students reading about a proposed reform of an educational system concerned whether they identified and used the argumentative structure of the content of the texts read. The difference between organising the content as arguments and conclusion in relation to each other and treating them as separate units only externally related was also indicative of the students approach and success in their studies in Education more generally. A similar difference may exist behind the variation in the conception of the outcome of educational systems described above. The conceptions of why an object sinks in water, the first example given above, represents a variation in the use of another very common structure, the cause-effect structure.

Approaches to texts

The quality of the outcome of learning from a text is not only the basis for judging the quality of the study activity in the form of an external criterion, but also reveals something substantial about the activity leading to the quality. If an outcome has a certain organisation of the content of a text then this means that the student during reading and learning has identified and/or induced this organisation or structure. The differences in study activity most closely related to the qualitative differences in outcome focussed on are then corresponding qualitative differences in the organising or structuring activity. These differences may be inferred as necessary prerequisites to the outcome.

Atomistic v holistic approach

The difference in outcome of learning emphasized above is between organisation of the content in some main parts and their relations into a structured whole and an aggregation of more specific parts of the content. We have called the organising, structuring approach a holistic approach. The concrete meaning of holistic varies and the term is only used to differentiate this approach from the approach leading to an aggregation of units which we have called an atomistic approach. The atomistic organisation and approach represents an inferior quality and approach only in relation to a possible and desired holistic organisation and approach. The two approaches described here, which can be inferred from the outcome, may also be conceptualized by the student. In a study by Svensson (1976) students described their thinking during reading and learning and during reproduction of the content. They did this in accordance with the quality of their outcome. Although this does not mean that they are aware of the alternative approach it may consitute a basis for influencing their approach.

The distinction between holistic and atomistic approach concerns the treatment of a given content. Another important aspect of the thinking during reading and learning is the relating of the given content to other contents. Such a relating is the basis for integrating the content with previous knowledge and also for critical assessment of what is understood of the content. Integration and critical thinking are, like understanding, commonly seen as important aims of education. The quality of the relating, of course, is dependent on the quality of the understanding of the given content and may in this sense be either atomistic,

holistic or both. The distinction between holistic and atomistic understanding tells us something about *what* might be related but not *if* the content is related to something else. Thus, differences in when and in what way the thinking is confined to the given content or extended to other contents as well is an important complementary aspect in describing the quality of the thinking about a given content. This aspect of the learning activity may also mainly be revealed through descriptions of the outcome of learning. More direct data on the activity may give complementary information.

Surface v deep approach

When it comes to trying to understand the functions behind the described difference in approach to and understanding of content some knowledge of the more general approach to the learning task is required. This aspect of the learning activity may be described as the overall intention in reading or the general conception of the reading and learning task. This is an aspect of the activity which can not be directly inferred from the outcome but has to be revealed mainly through the reports of the learner although we expect a close relation to the outcome. Marton (1975), and Marton & Säljö (1976a) make a distinction in this respect in relation to the same data used by Svensson (1976) in describing the holistic and the atomistic approach. Their distinction was between deep and surface approach. In relation to the data material used there was an almost perfect correlation between holistic and deep approach on one hand and atomistic and surface approach on the other hand.

The distinction between deep and surface approach concerns whether one approaches the text as a set of linguistic units to be understood and remembered or if one intends to go beyond the text and get to know what the text is about. Thus, this distinction is made on a more general level compared to the one between a holistic and an atomistic approach. The meaning of deep and surface may be said to be the same from case to case while the meaning of holistic and atomistic is relative to the content in each case. The principle relation between the two distinctions seems to be that a deep approach is a necessary condition for a holistic approach but not a guarantee, while a surface approach guarantees an atomistic approach (which means that the combination deep and atomistic would be possible but not surface and holistic). From the point of view of promoting holistic understanding of the content, the distinction between deep and holistic approach is important. Lack of holistic under-

standing may be due to a surface (and atomistic) approach or to a deep and atomistic approach. These two cases represents quite different pedagogical problems.

A deep approach may include a variation as to relating the content in a text to knowledge of other things not directly treated in the text while a surface approach excludes relating. Expressions of a conception of the task and of intention, including relating, would be sufficient indication for categorizing the approach as deep (but not for categorizing the approach to the content as holistic). A deep approach is a basis both for holistic understanding and critical thinking in relation to the text. Thus, the qualitative differences in approach to the text have been described on two levels: the direction of thinking about the content and the conception of the task. These qualities of the learning activity may in turn be seen in the context of a more general orientation to the studies.

A similar and related distinction is made by Brew & Mc Cormick (1979); they point out that some students view the material presented in lectures

> *... as a framework or skeleton of main ideas on which ... (they have) ... to build in their own thinking, further reading and experimental work: in terms of the subject as a whole, the lecture (represents) the tip of the iceberg.*

while others consider it

> *... as comprising the subject matter to be learnt for examination purposes in its entirety (i.e. the lecture (is) the whole iceberg).*

The two different levels of approach which we have accounted for represent, like the different levels of description of the outcome, an increasing generality. The descriptions on higher levels are less content-specific, which also means that the stress shifts from content to form and from outcome to process. This is the reason why we talk about approaches. Thus the skill, as well as the outcome, may be described on different level of generality.

Conceptions of studying

Orientations to studies

We can now add a third main level of description which refers to the student's way of conceiving the study situation in general. Just as we refer to the different ways of seeing a learning task as different approaches, Taylor, Gibbs and Morgan (1980) refer to the different ways in which students relate themselves to their studies as different *orientations*. Unlike the concept of motivation, orientation does not assume any psychological trait or state belonging to the student and the analysis does not set out to type students but rather it sets out to type orientations. There are four main kinds of orientation identified: vocational, academic, personal och social. Within each - except the last one - we find both an intrinsic and an extrinsic subcategory.

In accordance with this, vocational orientation is of two kinds: qualification and training. Students aiming at gaining *qualification* are not primarily interested in the content of the course but rather in passing it. Those more interested in being *trained* are much more concerned with content, though as this interest is mainly a function of their perception of their future vocational tasks, in a sense also their orientation is instrumental to some extent.

Academic orientation - which is extrinsic - means that the student is primarily interested in reaching *the next step in the academic ladder*. Though their interest is extrinsic in relation to the content of the course it is only a means, since they are primarily concerned with getting good grades, in relation to grades their interest is in a way intrinsic (not instrumental). Seen from a somewhat different angle, this extrinsic academic orientation can be distinguished from extrinsic vocational orientation (qualification) by means of the fact that while the latter is based on expectations as to one's vocational future the former is based on one's academic past (the choice of courses is based on one's previous record of academic success (or lack of it)). Intrinsic academic (or intellectual) orientation, on the other hand, reflects the student's interest in and curiosity about the very content of his or her studies. Presumably, it is this particular type of orientation which is most closely linked - on the micro level - with *the flow experience of learning* (Eckblad, 1979) originating from genuine intrinsic motivation. The term *flow experience* was coined by Csikszentmihályi

(1975) and it refers to a self-less and time-less state in which the individual is totally absorbed in his own activity, which is its own goal. Originally, this phenomenon was discerned in interviews with people used to being involved in such self-rewarding activities as mountain-climbing, dancing and surgery. But it is reasonable to assume that also academic studies have the potential to evoke this kind of experience, expecially in students with an intellectual (intrinsic and academic) orientation.

Also the third kind of orientation, personal, has two subcategories; compensation and broadening. *Compensation* means that the student is aiming at testing his or her capacity. *Broadening* on the other hand stands for the student's goal of developing himself/herself. Such an attitude reflects the will to *become* more able as opposed to compensatory orientation, which implies the desire to prove that he or she *is* able. Although *broadening* is the intrinsic category and students in whose case it is applicable are often intrinsic in their attitude to studying itself, the choice of course (and content) is largely irrelevant. Of course, once the choice is made content will be focussed on (except in cases where broadening more concerns form than content, for instance, when *broadening* is a broadening of the capacity to express oneself).

The fourth and last type of orientation, social, is only of one kind; it is always extrinsic in relation to the content of studies. And as the main reason for studying is to have a good time (or to avoid a worse) this orientation almost by definition is extrinsic.

In contrast to the differences in approaches described earlier, the orientations are not exclusive in relation to each other. Still, they very much represent differences in emphasis among students. The orientation of a student represents a condition for the reading of and learning from texts. The relation between orientation to studies and approaches to texts is most apparent in the form of selectivity, i.e. that students read some of the material but not other parts or read som parts in an intensive way and other parts in an extensive way. An effect of such selectivity, which is always more or less present, is a variation also in the quality of the overall composition of knowledge. Orientations are also manifested directly in the approaches to the text material.

We would expect the relation to be to the conception of the task in general, and especially to the distinction made earlier between deep and surface approach. The closest relation could be expected between these approaches to the learning task and the distinction between extrinsic and intrinsic orientations and we shall give an example of this by referring to the results presented by Taylor, Gibbs and Morgan (op cit) concerning adult students at the Open University.

We shall take the example from the above-mentioned description of personal orientation to studies. The distinction between intrinsic and extrinsic interest within this orientation is between aiming at *self improvement* (broadening) and aiming at *proof of capability* (compensation).

The authors themselves give a suggestion as to the link to the approaches to the learning material. The link they give as a concluding comment is *The two personal orientations of broadening and compensation seem to be linked to a meaning orientation and a reproducing orientation for approach to studying, respectively (p 25)*. This description seems to parallell the distinction between deep and surface approach. Similar differences may be expected between intrinsic and extrinsic interests within the other orientations. The difference between intrinsic and extrinsic orientation is, however, not identical to the distinction between deep and surface approach. It has different meanings within the different general orientations (vocational, academic, personal and social) and it concerns the orientation towards the whole study task. Intrinsic and extrinsic orientation seem to represent the most immediate context in which approaches to texts may be understood.

Conceptions of learning

The differences between students, which we have described in the last three sections of this paper, can be seen as differences in study skills on various levels if we think of them as differences in the capability to experience to conceptualize the content of learning task and the process of dealing with them. There are also obvious differences in how learning in itself is conceptualized. We mentioned above that how a student sets about learning is reasonably a function of his or her idea of learning. In the present contenxt, the student's conception of learning can be seen as a more general aspect of what we here call conceptions of studies. We believe, for instance, that it makes a difference if learning is thought of as a change in one's conception of a certain aspect of reality or rather as an act of acquiring a certain amount of relatively independent pieces

of knowledge. Most obviously, the former conception goes more easily with different kinds of intrinsic orientation and the latter with extrinsic orientation of one kind or another.

Relations between aspects of study skill

We have now referred to three main and increasingly general levels on which students' experience of the content, process, context and phenomenon of learning can be described. From the point of view of study skill, the students' capability to perceive and conceptualize the content, process and phenomenon of learning in one way or another can be characterized on these levels. Until now, the characteristics have been dealt with only as categories of description, without any ontological assumptions, and some logical relations between them have been discussed. The discerning of categories, by means of which our experiences and conceptions of the world around us can be dealt with, and the clarification of the logical relations between these categories constitutes a domain of inquiry of its own which has been labelled *Phenomenography* elsewhere (Marton, 1981).

The logical relations that we have discussed are all of the implicatory kind; a category of description implies another category of description on a higher level of generalizability. A category of the *conception-of-content* kind implies a category of the structural kind, which implies a category of the *approach* kind (atomistic/holistic), which implies a category of the second apporach kind (surface/deep), which implies a category of the (intrinsic or extrinsic) *orientation* kind, which implies a category of the *conception-of-learning* kind. (The hierarchical ordering of the last two levels is, however, somewhat ambiguous.)

A relation between categories of a logical nature can be seen as a cause-effect relation from another point of view. Making ontological assumptions about the applicability of the categories opens up opportunities for considering categories belonging to higher levels of generalizability as antecedents to categories belonging to lower levels of generalizability. One would think, for instance, that an *accumulation-of-pieces-of-knowledge* conception of learning would lead to an external orientation to studies, which would lead to a surface approach to the learning which would lead to an *atomistic* approach which would lead to *horizontalization* of the text to be read, and result in an incorrect understanding of what the author wants to say. The cause-effect relations are, however, not unidirectional. Not only do entitites signified by lower order categories reflect (and thereby logically imply entities signified by higher order categories,

they can in fact influence and shape them. What is important here is the fact that the categories do not form a closed system. The applicability of a certain category is not only a function of the applicability of other higher or lower order categories but also of external factors.

The situational context of learning

Different conceptions of the study task in terms of different orientations, and different conceptions of the learning tasks in terms of deep or surface approach as well as different treatments of the subject-matter content in terms of relating and non-relating and holistic and atomistic approach are crucial to the aims of education and give the core meaning of study skill. The demand for qualities such as deep, holistic approach etc. is not, in most cases, very explicit. Often the real demands are completely hidden to many of the students. This is so especially when the examination tasks do not actually demand holistic understanding but the amount of learning material and the cumulative character of the study task makes it almost impossible to manage with an atomistic approach (cf. Svensson, 1976 and 1977). Thus, a holistic approach is important to a much larger extent than is revealed through the examination tasks. The students who have difficulties in adopting a deep and holistic approach are also those who have difficulties in realising that this is what is demanded for success, that it is the core element of the study skill needed.

Hodgson (1980) studied students' experience of relevance in lectures in a conventional university setting. She distinguishes between three different levels: extrinsic, vicarious and intrinsic, with eight subcategories altogether. The experience of relevance comes about, she says, through the assessment system, the lectures and the students' own understanding, knowledge and interest. Especially interesting is what Hodgson calls vicarious experience of relevance. From normative point of view, intrinsic experience of relevance is desirable not least because of its beling linked with a more desirable approach to the learning task (aiming at understanding rather than regurgitation) and thereby also linked with a more desirable outcomes (such as deeper understanding). Vicarious experience of relevance can be seen as a transitional stage between extrinsic and intrinsic experience, it reflects the teacher's effort to bring about relevance.

As regards approach to learning, we mentioned earlier Svensson's (1977) distinction between an atomistic and a holistic approach to the content and Brew & Mc Cormick's (1979) distinction between a *whole-iceberg* and a *top-of-the-iceberg* view of the content of lectures. In this latter study, the use of an Open University course in a conventional university setting was investigated. The subject of the course was the digital computer and it consisted of a number of written texts, television and radio programmes. It was used together with a series of supporting lectures. The Open Unviersity course had some special characteristics; the text was closely argued, in such a way that the students were forced to follow it in detail. Brew & Mc Cormick (ibid) say:

> *The nature of the text is such that the relationships between concepts are clearly spelled out and links between ideas are drawn. In other words, the course appears imlicitly to assume that knowledge consists of ideas and concepts in particular relationships, and the explanation, and hence learning, has to be effected in terms of such relationships.*

Features which may seem to be proof of a high didactic quality obviously raise serious problems for most students. As we said above, students differ in their approaches to learning tasks. When we say that the course raises problems for most students we would expect that it would do so for different reasons. And this is exactly what Brew & Mc Cormick found. Students who consider the content of the course as *the whole iceberg* i.e., who consider it as representing the total amount of knowledge to be learned found the Open University course too extensive. They believed that by adding explanations and illustrations (which was done for didactic reasons) the demands as to the amount they had to learn were increased. Students with a more active approach, on the other hand, i.e. those aiming at developing their own ideas and building up a structure of their own found themselves constrained by the very explicit structure in the course.

Still, there were some students who, in fact, benefited from the very carefully developed structure of the course. Brew & Mc Cormick (ibid) refer here to Perry's (1970) work in which the intellectual development during college years is described in terms of a transition from a dualistic conception of knowledge, such as a collection of right answers to a relativistic stage where the individual realizes that things can

be seen in different ways, to commitment (which means that though being aware of the plurality of views one takes the responsibility of committing oneself to one of them). Concerning the Open University course, Brew & Mc Cormick argue that students on at least the relativistic level profited most from it. They realized that the course offered them an interrelated system of concepts and ideas, though only *one* system of several possible ones. They could conceive of developing their own alternative system which then could be compared to the one taught in the course.

Conclusions

In this paper we have referred to three main levels of increasing generality on which the students' experience of learning can be described. On the most concrete level we can discern the different ways in which a particular content is understood by the students. The capability to understand a content in one particular way rather than in another is a description of study skill on a fairly specific level. In a sense, study skill described on a certain level can be seen as a function of study skill described on a more general level on the one hand, and of modifying external factors on the other.

As we explained above, the technical interpretation of the concept of *study skills* is irreconcilable with our view of learning as a change in the learner's conceptualization of a certain aspect of his or her reality. Thus, we do not believe in the attempts aimed at enabling students, by means of all-purpose study technique courses, to deal with any learning tasks irrespective of content.

Another way of dealing with the students' assumed lack of study skills is represented by the manipulations of the text itself. If the students lack the capability to discern the main points in the text, we can do it for them, we can make both the basic concepts as well as the relations between them explicit. Referring to Brew & Mc Cormick's (op cit) study we pointed out the risks inherent in an approach such as the one above. Not realizing that the actual structure represents a way of viewing that particular domain of knowledge the students try to *learn* it instead of (as was intended) trying to understand it and possibly developing an alternative structure of their own. In the students' thinking a means (the structure provided in the text) is transformed into an end (that which has to be learned). A similar means-end reversal has been ob-

served in several experiments in which the aim was to induce a deep approach to a learning task, by means of manipulating questions inserted in the texts and by means of attempts to control the subjects' expectations of the test questions to be given after the reading of the text (Dahlgren, 1975; Marton, 1976; Marton & Säljö, 1976b). What happened in most cases was that instead of trying to reach the understanding which - according to the experimenter's intention - was neccessary in order to be able to answer the questions, the subjects oriented themselves towards the questions as such, i.e. they tried to answer them by means of superficially extracting the information from the text which they-erronously-considered as sufficient for a high score.

The answer to the question of how study skill can be improved is, of course, a function of the special interpretation we give to the concept (of study skill). As our conceptualization has a strong phenomenal flavour to it, our own answer has to be phrased in terms of how the students experience and conceptualize various aspects of learning, the measure we would suggest must aim at making the individual more capable of experiencing and conceptualizing those aspects in a way which we, on a normative basis, find more desirable. Based on a conceptualization of study skills which is very similar to our own, Gibbs (1978) suggests methods for raising the students' consciousness in order to improve their study skills. His method is to hold group sessions during which the participants tell each other about their own learning experiences. By means of such discussions, the phenomenon of learning is thematized so to speak and the participants become aware not only of the fact that learning is something that can be discussed but also that it is something that can be experienced in different ways of which some are better or more efficient in relation to certain aims than others.

Gibbs' approach is very general, it deals with the total experience of learning. We have tried to demonstrate here that there are several distinguishable level of generality. Our opinion is that we should not only make the students aware of these different levels but also of the differences within each. We should thus point out the qualitatively different ways in which a certain content, a certain structure, a learning task, studies and learning itself can be experienced, and conceptualized.

We stated in the introductory part of the present paper that we consider learning as being a transition from one conception of a particular aspect of reality to another conception of this aspect. When it comes to the acquisition or learning of study skills we expect the learner to proceed from one way of experiencing or conceptualizing a certain content, structure, task, his or her studies or learning in itself to another and, hopefully, better way. In order to facilitate such a transition we should provide him or her with the alternative conceptions between which the transition is supposed to take place. In this way, the state that we are aiming at and the states from which we start would be pointed out and the difference between them thematized. What we are arguing for is the use of what we, following Geerz (1973), might call *thick descriptions*. By a *thick description* we mean a complex of alternative interpretative frames in relation to a certain content, structure etc.

The implication of our relational view of study skill is that we should always take the content of learning as a point of departure. We should point to the qualitatively different ways of understanding central concepts, we should thematize the taken-for-granted structures in texts, we should discuss the various approaches to texts and orientations to studies. And we should also deal with different conceptions of learning. These more general aspects should not be treated in themselves, but in relation to particular contents, contents of which they make up more general aspects. What is general should thus be talked about in terms of what is specific, and vice versa.

References

Brew, A. & Batten, M.A. (1980) Levels of thinking and Open University students. University of Essex. (mimeo)

Brew, A. & Mc Cormick, B. (1979) Student learning and an independent study course. *Higher Education*, *8*, 429-442.

Coombs, P.M. (1968) *The world educational crisis: a systems analysis.* New York: Oxford University Press.

Csikszentmihalyi, M. (1975) *Beyond boredom and anxiety. The experience of play in work and games.* San Francisco: Jossey-Bass.

Dahlgren, L O. (1975) *Qualitative differences as a function of content oriented guidance.* Göteborg: Acta Universitatis Gothoburgensis.

Daniel, J.S., Stroud, M.A. & Thompson, J.R. (Eds.) (1982) *Learning at a distance. A world perspective.* Edmonton: Athabasca University/ ICCE.

Eckblad, G. (1979) Spontanmotivasjon - et viktig fenomen for psykologisk teori i dagliglivet? *Nordisk Psykologi*, *31*, 30-41. (Spontaneous motivation - an important phenomenon for psychological theory and in daily life?)

Geertz, C. (1973) *The interpretation of cultures.* New York: Basic Books.

Gibbs, G. (1978) Intervening in student learning - a practical strategy. Paper presented at the Fourth International Conference on Higher Education, 29 August - 1 September 1978, Lancaster, Great Britain.

Hodgson, V.E. (1980) Lecturing and learning: a study of students' experience. Unpublished Ph D thesis, University of Surrey.

Lybeck, L. (1981) *Arkimedes i klassen. En ämnespedagogisk berättelse.* Göteborg: Acta Universitatis Gothob·gensis. (Archimedes in the class).

Marton, F. (1975) On non-verbatim learning: I. Level of processing and level of outcome. *Scandinavian Journal of Psychology*, *16*, 273-279.

Marton, F. (1976). On non-verbatim learning: II. The erosion effect of a task induced learning algorithm. *Scandinavian Journal of Psychology*, *17*, 41-48.

Marton, F. (1981) Phenomenography - describing conceptions of the world around us. *Instructional Science*, *10 p*, 177-200.

Marton, F. & Svensson, L. (1979) Conceptions of research in student learning. *Higher Education*, *8*, 471-486.

Marton, F. & Säljö, R. (1976 a) On qualitative differences in learning: I. Outcome and process. *The British Journal of Educational Psychology*, *46*, 4-11.

Marton, F. & Säljö, R (1976 b) On qualitative differences in learning: II Outcome as a function of the learner's conception of the task. *The British Journal of Educational Psychology*, *46*, 115-127.

Marton, F. & Wenestam, C-G. (1979) Qualitative differences in the understanding and retention of the main point in some texts based on the principle-example structure. In M.M. Gruneberg, P.E. Morris & R.N. Sykes (eds). *Practical aspects of memory*. London: Academic Press, 644-651.

Perry, W.G. (1970) *Forms of intellectual and ethical development in the college years: a scheme*. New York: Holt.

Svensson, L. (1976) *Study skill and learning*. Göteborg: Acta Universitatis Gothoburgensis.

Svensson, L. (1977) On qualitative differences in learning: III. Study skill and learning. *The British Journal of Educational Psychology*, *47*, 233-243.

Svensson, L. (1981) The concept of study skill(s). *Pedagogiska institutionen, Göteborgs universitet*, 1981:01.

Säljö, R. (1975) *Qualitative differences in learning as a function of the learner's conception of the task*. Göteborg: Acta Universitatis Gothoburgensis.

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